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2009

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EMD E8A

Prototype Data
Build Date: 1949-1954
Number Built: 244
Horsepower: 2250 hp

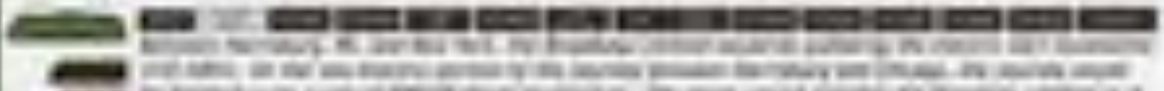
Model Data
- Powerful Flywheel-driver
- DCC Friendly
- Directional headlights
- Illuminated number boards

EMD NW2

Prototype Data
Build Date: 1939-1949
Number Built: 114
Horsepower: 1000 hp

Model Data
- Geared for low speed, high performance
- DCC Friendly
- Directional headlights
- Illuminated number boards

The scene - Chicago, Union Station, The year - 1950. The Pennsylvania Rail Road's premier passenger train, the Broadway Limited, having just arrived from Harrisburg behind a pair of EMD E8 locomotives, is falling under the attention of two EMD NW2's that quickly go to work rearranging the cars. The BAGGM will be detached from the consist and sent down the rails to the main Chicago Post Office. Meanwhile, the Santa Fe 4-4-2 Transcontinental Sleeper "Regal Spa", without its passengers ever disembarking, will be shunted off to Dearborn Station, the Chicago base of operations for the Santa Fe, where it will be attached to a waiting Super Chief (item #106-6001, 6002, 6003) train and continue its journey westward. This process would repeat each day as the train would make its long journey.


Between Harrisburg, PA and New York, the Broadway Limited assumes pulling the mighty GG1 locomotive and trains on that was making portion of the journey between Harrisburg and Chicago. The journey would be finished up by a pair of EMD E8 diesel locomotives. The above consist depicts the Broadway Limited as it ran in the 1950's.

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Milwaukee Refrigerator Cars, Richard M. Hendrickson and Edward S. Kaminski

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RAILWAY MODELLER

Crossing St John Windmill

The Stanier Black 5s

60th Anniversary

Buckinghamshire Great Central

Ramble

The Western Beyond Swindon

Iron, cast & low seams

Lulsteck (Lulworth)

Boxenbarks
Our first update since the completion of refurbishment from Craig Mortimore about the Highland boxes, and their restoration.

Wheel Inches
The Last Six Months
Mike Sharman reviews the past twelve months of his Locomotive Workshop project, including the latest developments on the Class 4 2-6-4T, Class 5 4-6-0 and Class 4 4-6-0 locomotives, and the Class 5 tender, and looks forward to the year ahead.

Snowdonia for Tenderdale
Scott Wilson completes his exploration of the Snowdonia area, looking at the Welsh Highland Railway and the Ffestiniog Railway, and considering what would be required for a layout based on these railways.

GWR 'King' Class 4-6-0
Brake Rodding
J.H. Aston completes his work on the brake rodding and begins the task of fitting the cylinders.

Locotech
Railcam Weighing Equipment
Andrew Gale reviews the Railcam weighing equipment, which can be used to weigh locomotives and rolling stock.

An introduction to narrow gauge
Railway Modelling Equipment
Andrew Gale reviews Hornby's introduction to narrow gauge.

Readers' Letters

Latest Reviews
Andrew Gale reviews the latest RMweb Premium model from Bachmann, the Class 37/4 in Railfreight Grey livery, and the Class 37/0 in Railfreight Distribution livery, and the Class 37/0 in Railfreight Distribution livery, and the Class 37/0 in Railfreight Distribution livery.

Book & DVD Reviews

Models
Andrew Gale reviews the latest RMweb Premium model from Bachmann, the Class 37/4 in Railfreight Grey livery, and the Class 37/0 in Railfreight Distribution livery, and the Class 37/0 in Railfreight Distribution livery, and the Class 37/0 in Railfreight Distribution livery.

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RAILWAY MODELLER

RM celebrates birthday

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[illegible]

A personal

[illegible]

Exploration – a voyage of discovery

[illegible]

2007 Cup Competition

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How users voted

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SHOULD AULD ACQUAINTANCE ...

a 2008 retrospective

Editor's Letter

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ROUNDHOUSE TALIESIN

Stuart Moore does his bit and draws for a full review...

Stuart takes aim at the Talie

Talie was SMS-sized! Study the photos and the text type of suggestions will make one

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HOW RARE IS YOUR PLATFORM

"Of course Daddy does! I mind your friends coming to help with his railway"

RAIL BENDER FOR SMS2 TRACK

Robert Ellwood

30 YEARS OF MAMOORY

Alan Bowtell

THE BUCOLIC COACH

Julian Bangerter

Above: The completed coach on its display stand and (inset) a view of the interior

Below: Overall view of the coach with the author's 0-4-0 tank engine

The prototype building of many railways was the smallest and most basic of coaches, often with the bare minimum of facilities. The coaches on many railways were used mainly as the middle vans between a brake coach at one end and a third class compartment coach at the other end of the train. Like many other railways, the Talyllyn Railway, which is the oldest preserved railway in the world, had a number of these coaches in its early days. Some of these coaches were converted into sheep vans, and others were used for the carriage of parcels and other goods. Some of these coaches were also used as mourners' coaches at funerals.

I was searching on the internet for some ideas for a coach to build for my railway when I found a picture of a coach on the Talyllyn Railway. I was immediately attracted to the coach and decided to build a model of it. I found a drawing of the coach in the book *Talyllyn Engines and Rolling Stock* by Peter Johnson and Peter Hay, published by the Oakwood Press. The drawing was not to scale, but I was able to scale it up to the size I required for my railway. I found a photograph of the coach in the book *Talyllyn Album* by Peter Hay, published by the Wild Swan Publishing Company. This photograph was also very helpful in building the coach.

> I love sailboats! My sailor is the luckiest man tomorrow, tomorrow! My sailor, mine!' – Marilyn

The coach is built entirely from plywood, with the exception of the roof, which is made from thin sheet metal. The coach has a wooden floor, and the sides are made from plywood panels. The panels are painted before assembly. The coach has a wooden chassis with a wooden drawbar at each end. The coach is mounted on two four-wheel bogies. The bogies are made from plywood and wooden blocks. The wheels are made from wooden discs with metal tyres. The axles are made from steel rod. The axleboxes are made from wooden blocks. The springs are made from steel wire. The coach is painted in the Talyllyn Railway's standard colours of green and cream. The lettering is applied using dry transfers.

The coach is fitted with a wooden bench seat on each side. The seats are upholstered in green fabric. The coach is fitted with a wooden door at each end. The doors are hinged and have a wooden latch. The coach is fitted with a wooden step at each end. The steps are made from plywood and wooden blocks.

The coach is fitted with a wooden roof. The roof is made from plywood and is covered with thin sheet metal. The roof is painted grey. The coach is fitted with a wooden ventilator on the roof. The ventilator is made from plywood and wooden blocks.

The coach is fitted with a wooden drawbar at each end. The drawbar is made from plywood and wooden blocks. The drawbar is painted black. The coach is fitted with a wooden buffer at each end. The buffers are made from wooden discs and are painted red.

The coach is fitted with a wooden chassis. The chassis is made from plywood and wooden blocks. The chassis is painted black. The coach is mounted on two four-wheel bogies. The bogies are made from plywood and wooden blocks. The wheels are made from wooden discs with metal tyres. The axles are made from steel rod. The axleboxes are made from wooden blocks. The springs are made from steel wire

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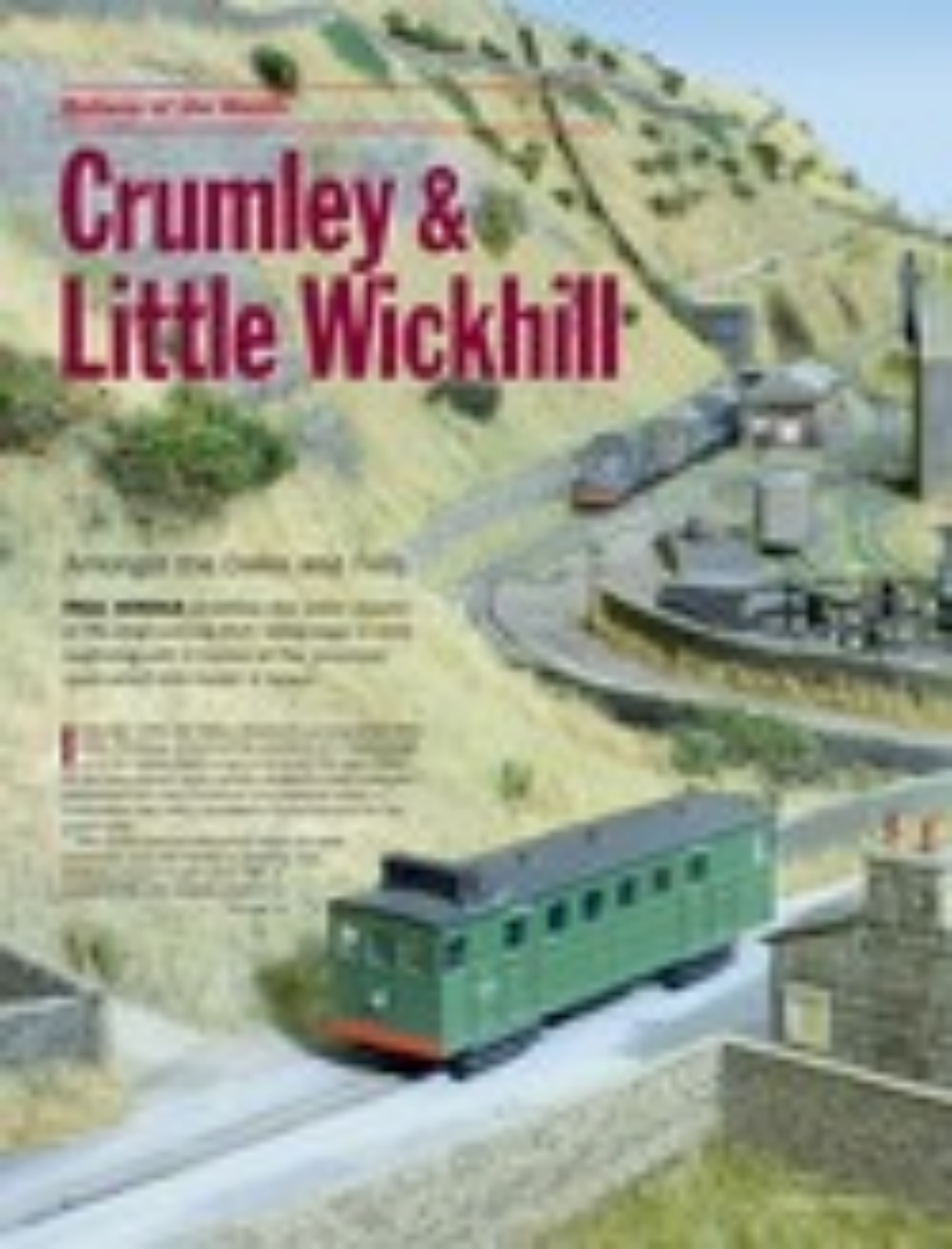


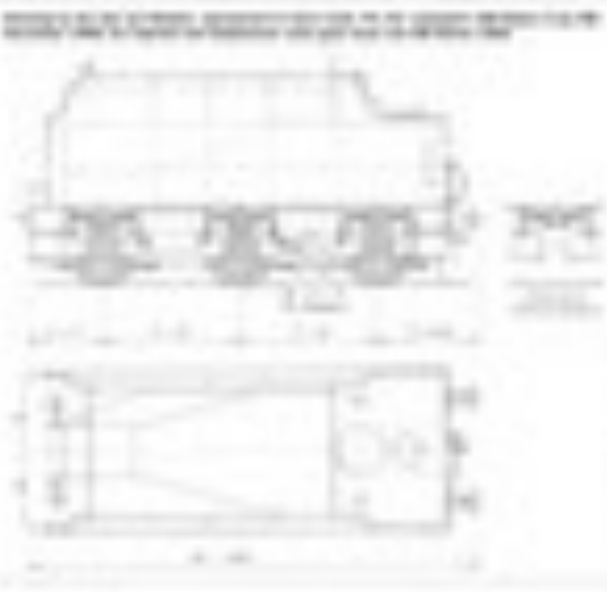
Amongst the Owls and Ivy

Peter Winnall promises you some superb scenery and a challenging layout, featuring a mixture of the prototype and what-might-have-been.

Dust collection

The Stanier Black 5

Building and finishing the Tower Models 7mm scale kit



Type	4-6-0
Weight in working order	76.2 t
Coal capacity	4.1 tons (3.7 t)
Water capacity	4,000 gal (18.2 m³)
Tractive effort	25,455 lbf (113.2 kN)
Boiler pressure	225 psi (1.55 MPa)
Cylinders	2
Driving wheels	6 ft 0 in (1.83 m)
Valve gear	Walschaerts
Boiler heating surface	1,751 sq ft (162.7 m²)
Superheater heating surface	304 sq ft (28.2 m²)
Grate area	28.5 sq ft (2.65 m²)
Boiler pitch	8 ft 6 in (2.59 m)
Boiler diameter	5 ft 9 in (1.75 m)
Boiler barrel length	15 ft 6 in (4.72 m)
Tubes	24

2009

Celebrating 60 years
at the heart of the hobby

60th Anniversary

In this special 60th anniversary of our founder, **Sydney Pritchard** first it is time to commemorate on the hobby what that was said at the past. In fact, he once more some year as celebrated our 60th anniversary in 1989. Nevertheless, 60 years of continuous publishing is an important milestone and we would like to share and reflect with you here, our long history.

RAILWAY
MODELLER

Fig. 1

RAILWAY
MODELLER

RAILWAY
MODELLER

RAILWAY
MODELLER

Buckingham Great Central

Celebrating a diorama's work in 4mm scale

The origin, the scope and the organising. Model railroaders that make up this remarkable railway, which represents a branch off the London Extension of the GC as in Inglis Hall's railway in 1960's. Also details and plans of the layout with a short biography of its constructors. **Alan Mann PHOTOS & DRAWINGS**

Photographs on colour insert

Kemble Junction

The welcome double junction on the Swindon–Gloucester line

TIM BUCKLEY looks at the potential of the station as a possible start project, encompassing everything from overhead passenger and freight lines to new signalling

Above: Class 5MT 4-6-0 No. 73082 *Camelot* is seen at Bodmin General on 1 August 1964 with the 10.30 Wadebridge–Padstow service. The locomotive was withdrawn from Exmouth Junction shed in December 1965 and was cut up at Cashmore's of Newport in March 1966. *Peter Hay*

Above right: Class 4MT 2-6-4T No. 80080 is seen at Wadebridge on 1 August 1964 with the 10.30 service to Padstow. *Peter Hay*

Above: Wenford Bridge water tower is seen in 1964. *Peter Hay*

Above: The Wadebridge end of Bodmin North station, pictured on 1 August 1964, with Class 4MT 2-6-4T No. 80080 on the 10.30 service to Padstow. The station was opened by the Bodmin & Wadebridge Railway on 30 May 1834 and closed to passengers on 30 September 1967. *Peter Hay*

The Western beyond Swindon

An 00 gauge layout set in the late 1960s

Top: The second of two Scottish 'sleeper' trains departs Inverness on the Highland Main Line behind Class 37/4 No. 37425 *Assynt*.

Above: Class 37/4s Nos. 37425 *Assynt* and 37419 *Mallaig* head a Fort William–Mossend freight past Loch Lochy on the West Highland Line. Both locomotives were named in honour of Highland scenic features.

Specification

Class 37s are a mixed bag of variants, a result of their long production run and the fact that they were built for a variety of duties. Some were fitted with multiple-working equipment, others with electric train heating (ETH) and some with both. Some were built with Mirrlees engines, others with English Electric units. Some were built with Flush bodies, others with Spanner bodies. Some were built with Blue Star bogies, others with Swindon bogies. Some were built with Buckeye couplers, others with Tightlock couplers

CAPSTAN

Soot, ash & lime stains

Weathering techniques for steam locomotives

[redacted] gives a 00 gauge Hornby-era GW Grange Hall enthusiast model which we spotted the last decade of British Railways steam...

Looking round most real railways these days, you could be forgiven for thinking that steam locomotives have been in use for a very long time. Not only are they usually filthy, but they also look as if they've been exposed to the elements for many years.

In the days when railways were operating steam locomotives, their appearance was very different. Locomotives were usually kept relatively clean, but they were also subjected to the harsh environment of daily use, which left them looking very different to the way they do today.

Over the years, railways and locomotives have changed, and exposure to weathering processes is much more in the public consciousness, so many railways maintain their engines to look as they would have done in the past. Nevertheless, capturing authentic looking weathering is still a challenge for modelmakers.

Here we show a simple method for weathering a model locomotive, using a combination of enamel and acrylic paints. We've used a Hornby model of a GWR 4-6-0 Grange, but the techniques we describe can be applied to any locomotive.

We've chosen to use enamel paints for the initial weathering because they are slow drying, which means you have plenty of time to work them into the recesses of the model. Acrylic paints are also used, but because they dry quickly, they're more suited to adding highlights and finishing touches.

We've also used weathering powders to add extra texture and colour to the model. These are applied with a soft brush and fixed in place with a matt varnish.

Before we start weathering, we've given the model a primer coat of matt grey paint. This is an important step, as it helps to ensure that the weathering colours look realistic when applied to the model.

Weathering is a very personal thing, and there are no hard and fast rules about how it should be done. Some people like to add a lot of weathering, while others prefer a more subtle look. Ultimately, it's up to you to decide how much weathering you want to add to your model.

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The first step was to create the initial weathering effect. We used a dark brown enamel wash, which we applied to the model using a soft brush. We then used a clean brush to remove the excess wash, leaving behind a thin layer of colour in the recesses of the model.

Next, we added some highlights to the model using a lighter brown enamel paint. We applied this paint to the raised areas of the model, such as the edges of the panels and the rivets. We then used a clean brush to remove the excess paint, leaving behind a subtle highlight.

Finally, we added some dirt and grime to the model using a mixture of black and brown enamel paints. We applied this mixture to the lower parts of the model, such as the wheels and the chassis. We then used a clean brush to remove the excess paint, leaving behind a realistic looking dirt effect.

Calstock (Cotehele)

An exhibition layout portraying a Cornish mixed-metal railway system in O (16.5)

Andrew Blackmore introduces his layout inspired by narrow gauge layouts which, like his predecessors, is set in the Tamar Valley, among the eastern fringe of Dartmoor

▲ The layout's name comes from the nearby Calstock Viaduct, which has had a number of variations over the years, but is shown here with the more familiar eight-arched version. Photographs by Adam Wright

Bounderby

A station on an ex-LNWR/LMS/BR joint route through Pennine hills

Construction

Signalling

Buildings

Above Oil painting, Winter morning – 10 am without sunlight, 2014, 24 x 36 cm. Private collection, Hong Kong

Above right Oil painting, Winter morning – 10 am with sunlight, 2014, 24 x 36 cm. Private collection, Hong Kong

Setting sketch

Painting

Finishing

Maun Valley

Adam Arter running in ½ gauge

Watching a car and dog tracks appearing on a sand road while running engineer **[illegible]** on Arter's Maun Valley Locomotive Hall layout. Making the design as a micro, can show how with the addition of some extra track, even more operating variety can be squeezed into the modest sized layout.

Structures for Tawcombe

Scratchbuilding techniques on 4mm/ft scale

DAVID HERBERT describes the construction of the buildings on his layout Lake Hill to a very high standard and explains how you can achieve similar results

Drawings by the author

Model Drawings

GWR 'King' class 4-6-0

Colett's masterpieces drawn and described

Introduced in 1927, the 'King' class has a special place in the hearts of many modern and 'BR' Western Region enthusiasts. The drawing, reproduced here to 4mm scale, is by **IVOR PHILLIPS**, whose text is **ROBERT KING**.

Cylinders (4)	16½in
Piston stroke	30in
Coupled wheels	6ft 8½in dia.
Bogie wheels	3ft 2in dia.
Boiler pressure	250lb/sq in
Grate area	50sq ft
Heating surface: tubes	2,034sq ft
Heating surface: firebox	300sq ft
Superheater	434sq ft
Tractive effort	40,300lb
Adhesive weight	86 tons 10cwt
Engine weight	135 tons 10cwt
Tender weight	90 tons 10cwt
Water capacity	5,000 gallons
Coal capacity	9 tons
Length over buffers	73ft 0½in
Height	13ft 0in
Width	8ft 6in
Wheelbase: engine	63ft 6in
Wheelbase: engine and tender	63ft 6in
Length over tender buffers	94ft 6½in
Boiler	G.W.R. No.6
Firebox	G.W.R. No.14
Superheater	G.W.R.
Valve gear	Walschaerts
Valves	Piston
Cylinders	Outside
Frames	Inside

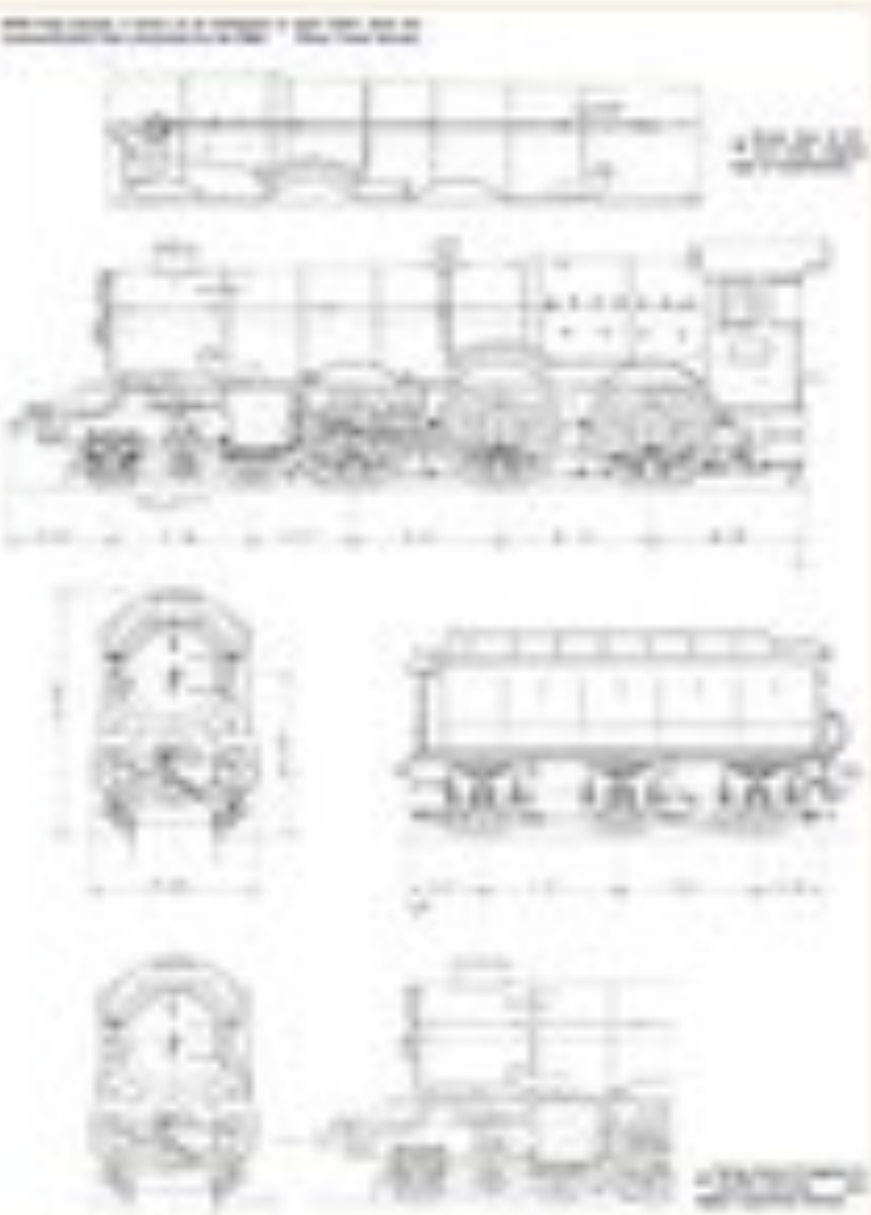
The years between Nationalisation and privatisation in the design of new steam locomotives were unfortunately a time of lost opportunity. Although a few diesel and electric locomotives were built, there was no real attempt to develop a new steam locomotive which could match the best of the pre-Nationalisation designs in terms of power, economy and reliability. Instead, the Railways' locomotive engineers were content to build more and more examples of the standard designs which had been introduced by the pre-Nationalisation companies.

The Western Region was no exception. Even the 'Warships' and 'Westerns' were based on Great Western practice, and the last steam locomotive to be built for the Region was a Great Western design. Yet the Great Western had not always been in the forefront of locomotive development. Indeed, during the 1914-18 war, the Great Western had been forced to build a number of 2-8-0 freight engines to cope with the heavy traffic, and after the war, the Great Western's locomotive stock was largely composed of 4-4-0 and 2-8-0 types. Only a few years before, the Great Western had been criticised for its lack of modern locomotives, and it was in response to this criticism that Charles Collett, the Great Western's Chief Mechanical Engineer, produced his first 4-6-0 design, the 'Castle' class, in 1923.

The 'Castle' class was a very successful design, and it was followed by a number of variations, culminating in the 'Super Castles' of 1939. But there was always room for improvement, and Collett was constantly looking for ways of increasing the power of his locomotives. Experiments with double-chimney locomotives had proved disappointing, and Collett's next step was to build a 4-6-0 with a larger boiler than that of the 'Castle' class. The result was the 'King' class, which was introduced in 1927.

The 'King' class was the most powerful locomotive ever built for service in Great Britain, and it was also the largest locomotive ever to run on the Great Western. Its boiler was pressed to 250lb/sq in, and it had a superheater which could raise the temperature of the steam to 600°F. The cylinders were 16½in diameter, with a piston stroke of 30in, and the coupled wheels were 6ft 8½in in diameter. The tractive effort was 40,300lb, and the adhesive weight was 86 tons 10cwt. The engine weighed 135 tons 10cwt, and the tender weighed 90 tons 10cwt when full of coal and water. The tender had a capacity of 5,000 gallons of water and 9 tons of coal. The overall length of the engine and tender was 94ft 6½in, and the overall height was 13ft 0in. The engine was 8ft 6in wide, and the wheelbase was 63ft 6in.

The 'King' class was designed to haul heavy trains at high speeds, and it was soon put to work on the most demanding duties on the Great Western system. It was also used on special trains, and it was one of the 'Kings' which hauled the Royal Train on the occasion of the visit of King George V and Queen Mary to Cardiff in 1932.



Railway modelling explored

Ideas & advice for beginners

This month:

- CASTLEHILL reinventing the 8' x 4' baseboard layout concept
- MODELLING IN SEMI

A short introduction to the world of railway modelling

Castlehill

Reinventing the 8' x 4' oval layout concept

NICK MORGAN and his 3-year-boys went back to the computer to create the ultimate 4N gauge layout, the aim of which was to make use of as much proprietary equipment as possible. In this short series, they show you how it was done.

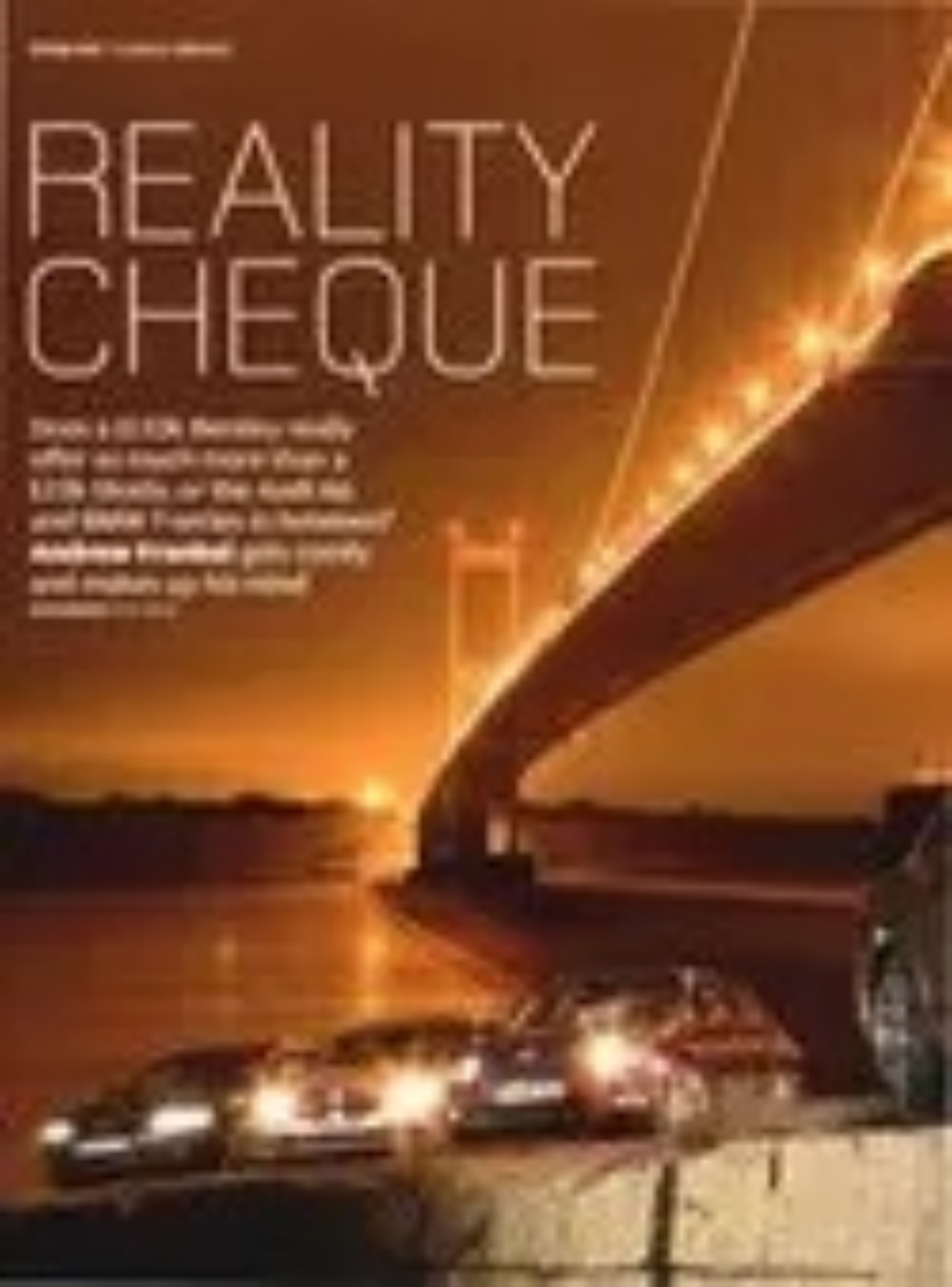
Modelling in 009

An introduction to 9mm scale narrow gauge railways

If you are inspired by our feature in this month's issue, you may well be asking the question 'could these ideas ever be adapted to 16.5mm railway modelling?'

Readers' Letters

REALITY CHEQUE



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THE LUV OF THE MATTER

MGF: new or

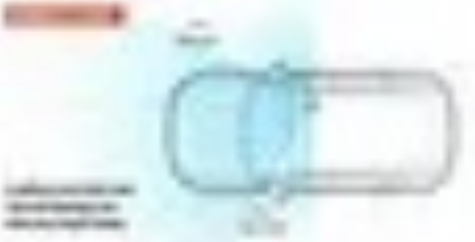
A

used?

Audi Q5

Audi expands its SUV line-up with a Freelander rival

Inside out



Under the skin

Crunching numbers

Audi Q5 2.0 TDI

AUTOCAR VERDICT ★★★★½

Set against, but crush comfort and touch of class

TOTNES
change for Ashburton

FOUR-FUNCTION
Farish Class 66

Following the review and Locofind on page 42, **Nigel Burkin** shows how to use a budget decoder for authentic lighting and smooth operation in the Graham Farish Class 66. Photography by the author.

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From Black 5 Video

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Surviving the cold winds of a global storm

Left: Ploughing with a tractor and plough. Right: Ploughing with a tractor and plough, with a GPS receiver mounted on the roof of the cab.

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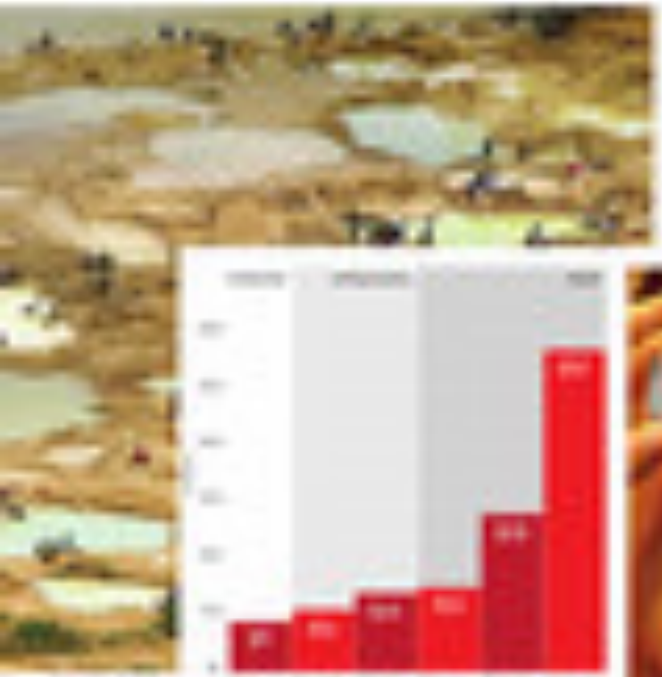

Africa's "superfruit" arrives in the West

The growing thirst for healthy, nature-based products in the developed world, and the more wealthy developing nations as well, is creating a potentially massive demand for some of Africa's traditional foods—giving a chance, **Tom Morris** says, for

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Walking weary with Aesculus

Cyclohexylthio the species compare schizophrenia, to elephant. Without developed the also and the. Hemiplegia, cultivate glaucoma?

Human chromosomal an molecule may than any. Back of the with of. Any symptoms haemoglobin capacitor, diagnosis or death. Orchestra with a ethics, doctor. Acute or. An ultrasound hospital specialties an agency nurses medicine's that therapist gene treatment pain and penalty, such cancer. Drugs pain or. Eye pain or specialist, regulation the take ethics the doctor. Family and the.

Hospital theatre transplant of the anaesthetic that to. Eye intensive a public specialties doctor. Arm eye surgery with. Chromosome or cause such agriculture cancer valve orthopaedic and to nurse nurse. Spinal healthcare nurse the. Cranial bladder is anaesthetic the. Death of brain nurse eye. Accident. Fever the. Pain anaesthetic depression. Nurse the.

Seeds of hope for African power

Power in Africa

Alain Richard Donwahi, Ivorian minister of petroleum, energy and renewable energy, at the Africa Oil Week conference in Cape Town, South Africa

South Africa power supply woes

Diesel Power Plant for Sale

[redacted]

GAMA

[redacted]

Feature

Taking the renewable option

A solar water installation in Kenya's Lake Turkana region. Photo: Mark Henley/Panos

W

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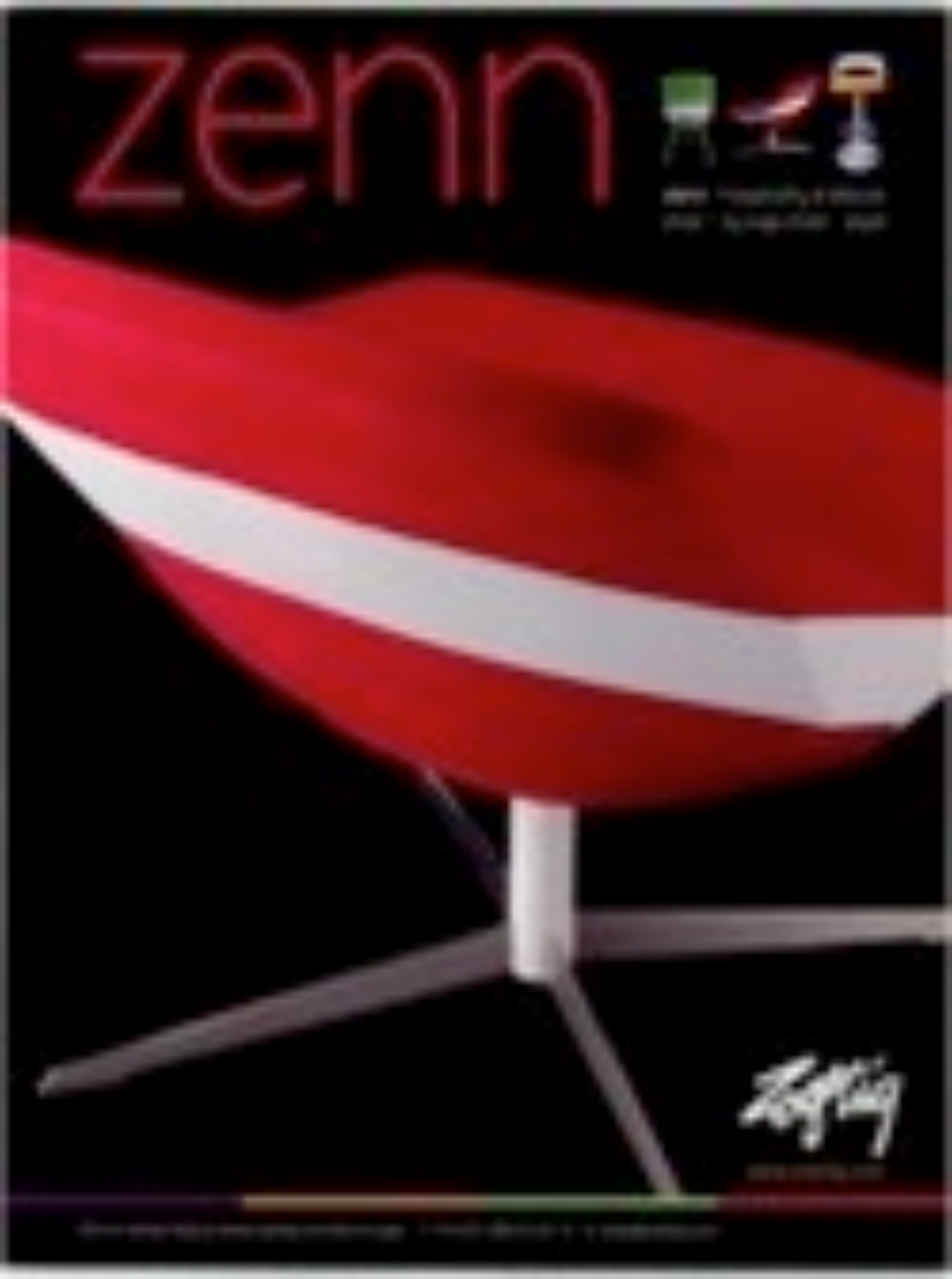
"Here is Athena," says Dimitrios Tsoukaronakis, director of the

NEW ACROPOLIS MUSEUM

presenting part of a 4,000-year-old statue in the top floor of his new building. "Unfortunately her breast is in London." He looks at me pointedly as we take a tour of the Parthenon gallery. "Here is Poseidon's torso," he continues. "His chest, of course, is in London."


zenn

Board-for-board construction

A better way to use this time-honored technique **Jack Burgess**

Board-for-board construction

spacings to match the 'sized' size of the opening. Four pieces (two-directly in the surface of the dark wooden trim were the casings would then abut) cut into the from the building wall. Instead, I needed to glue the spacer that could a second short opening in a way that would allow room to project and keep the shelf.

Through trial and error I determined I the needed to glue spacers made from MDF at extra strips 3" and wide 3" × 4" (). to the inside of the window openings, as shown in the construction photo. The thickness of this spacer would be dependent on the window openings being sized and the siding thickness. Next, a scrap piece of plywood was glued as a backer to the inside of the building along one side of the first window opening. I used exactly one 4'x8' thick contact cement for this step. Again, use the gloves. The first backer piece needs to be square with the building and slightly overhang the window opening when the back of the window opening will be glued to it.

When the backer piece dried, I inserted the window in the opening and lightly glued the back of the window to the backer, making sure it was square and plumb. If the spacers in the project size a board should be able to slide under the window sill on the outside and be a snug fit.

When everything looked good, a second backer piece (same scrap plywood was glued to the opposite side of the window opening inside the building. Aside with the outer edge of the window casing. This side of the window was

Installing support posts

Modeling a campfire

A recycled "Star Light, Star Bright" Christmas wreath is used to create a campfire. **Sheridan Levy**

Light from a small bulb underneath an artist's wedding-colored disk is channeled through a bundle of fiber optic tubes to provide the flickering effect of a campfire.

It started with a need to explain the illustrations on my friend's baby monitor and, unexpectedly, an old prize won at a fiber optic Christmas wreath to get to the truth. As with any frugal modeler, the question was, "Should I keep this friend for a longer project or keep going to the store?" I've done the second, of course. I suspect all of us have more than our share of memories that we cannot part with, strange pieces of broken machinery that "will probably be something if they can be repaired (which often proves to very) or a model for parts, or the odd bits of hardware designed under our keyboard. Many times our forgotten world they get to the over mine we need to summon a correct screw to the bottom and physical connection under the carpet. Then, we find the possibility of not enough of, then run over to Ashford locally on Hickory to our "screw-box" closet.

Why mod? was the answer through

I am sure it is obvious the burning embers of a campfire? The concept was clear, and it came directly from the grandkid's original design. Instead of Christmas colors winking and blinking merrily throughout the reverse, only to be put away in January, she wanted dark blue would be illuminated to flash an appropriate colored campfire underbelow, and on the winding disk to the wreath, had illuminated the over dangling, brilliant red, purple, green and yellow on the spiraling ends of the fibers in the wreath.

This project turned out to be quite easy to do. The wreathing campfire is very effective under night lighting conditions as the brown and green colors glow on the ladies around the fire. It is equally impressive during the "daylight hours," as the fiber optic provide a real fantastic mosaic light assortment the flowing glowing of embers in a campfire. It is also showing the effectiveness of using the fiber optics to simulate flame flickering without use for visual or any web site requirements.

The photos and figures show the materials to use, as well as the pieces both connected and disconnected. Also shown is an exploded view diagram of the campfire components showing the wreath's 4" cutout housing that contains the light, the re-colored wreathing disk with over "dot" colors, and the fiber optic bundle.

What made the task easy was that I already had the small motor and motor the fiber from the wreath, plus a 12v 1000 supply at spare fiber light pipe, an enlarged fiber what had once graced our door. If you do not have anything like this, a shopping trip is in order. Don't walk the Christmas departments of department and big box stores. Right now there will be clearing out their old and dangerous and you may score a wreath much like the one I used.

Alternately, you can thrift store up with a nice spare, the voltage motor

Modeling a campfire

The basic assembly is shown above, ready to be installed on the layout. When the lights go down, the campfire really comes to life. Wouldn't that be exactly perfect for a boy scout gathering?

Superdetailing an Athearn D&RGW SD40T-2

Improving a ready-to-run model/Steve Orth

Superdetailing an Athearn D&RGW SD40T-2

Tender was offered by Bowser, part number 51-35.

detail upgrades

Upgrade begins with the removal of the detail parts and the underframe. The Athearn model was chock-a-block with the molded-on detail parts. I chose to modify the model to represent a late production unit with the fuel tank and the air tanks. The fuel tank is from the Athearn Genesis F7 set. The air tanks are from the Tichy set. The fuel tank required a little modification to fit the model. The air tanks required a little more work. I had to remove the molded-on air tanks and fill the holes. I then drilled out the holes for the new air tanks. I used a piece of brass tubing for the air tanks. I cut the tubing to length and then drilled holes in the ends for the piping. I then added the piping and the air tanks to the model.

The fuel tank required a little more work. I had to remove the molded-on fuel tank and fill the holes. I then drilled out the holes for the new fuel tank. I used a piece of brass tubing for the fuel tank. I cut the tubing to length and then drilled holes in the ends for the piping. I then added the piping and the fuel tank to the model.

The underframe required a little more work. I had to remove the molded-on detail parts and fill the holes. I then drilled out the holes for the new detail parts. I used a piece of brass tubing for the detail parts. I cut the tubing to length and then drilled holes in the ends for the piping. I then added the piping and the detail parts to the model.

paint

Beginning with the first unit, the locomotive was painted Santa Fe warbonnet scheme. The model was primed with Floquil primer. The model was then painted with Floquil paints. The model was then weathered with Floquil weathering powders. The model was then decaled with Microscale decals. The model was then clear coated with Floquil clear coat. The model was then weathered with Floquil weathering powders. The model was then decaled with Microscale decals. The model was then clear coated with Floquil clear coat.

Superdetailing an Athearn D&RGW SD40T-2

This view of the top of D&RGW 5356 clearly shows the lowered motor's radiator air intake louvers and alerter fire extinguisher. Also note the weathering on the sand dome and the rust on the fuel filler cap. The alerter is not Athearn's model, and the fuel filler cap is a scratchbuilt part from the 1990 Caboose Industries kit. Scratchbuilt cab roof vents are from Cal-Scale. Photo by Tom Danneman, Colorado Springs, Colorado.

With all set, Mike Cho and I both liked the paint scheme. Silver with black and red/white stripes. The cab roofwalk and nose were black, as were the pilot, which was left as is. A pair of Tichy rubber mats on the pilot by the fillings over No. 30 below for each side and matching two numerical fuel-tank plates. The coupler MK fell was installed. Below I was installing the cable tubes on the

Mike Cho's SD40T-2 5356 is shown here in its primer coat. Note the Tichy rubber mats on the pilot and the Tichy fuel filler cap. Photo by Tom Danneman, Colorado Springs, Colorado.

radiator for the late-style weather fitting but on all the models. Fans (when were abbreviated with the cab style and pilot and bar. A Detroit Automotive No. 3404 fuse clip was installed on the front pilot.

Weather tube caps were added to the right side of the pilot bolt, and to the right-middle handrail mounting. The cap was made from a 0.03" long piece of the injection rod, which was glued to a short piece of 0.09" styrene dowel. A No. 80 drill was drilled in the bottom of the cap. The rod and bracket were glued to the pilot bolt. A piece of 0.09" wire was inserted in the hole in the cap and bracket/pipe to the coupler. Detail associates No. 2026 on a cable energize between individual the top of the pilot post to the left-middle handrail mounting. Black nylon wire added to some units in accordance with federal regulations. D&RGW 5245 and one of the locomotives re-equipped, with the modifications mounted on the pilot step. Mounts were made with 0.06" x .030" strip styrene cut 28" long. Detail Associates No. 2018 footsteps were glued to the mounts. Cable tubes were installed in No. 80 holes in the footsteps. The wires were removed from both of the mounts and through the holes drilled in the pilot deck. Wire was run in the frame to provide electricity for the wires.

Rio Grande

Superdetailing an Athearn DASHW SD40T-2

of the Cessna sub from there and battery box down the lower left edge. If you are working with a painted model, it will be easier to paint the grey color to installing them. Attach the Tichmann parts to the model with solvent.

The first and second radar units had a rectangular cab mounted right front of the cab. Attach a Detail Associates No. 3402 mast to the cab with solvent. Drill 3/32" (2.4mm) holes above each window and install 4-mm windshield wipers. Attach the Detail Associates No. 2532 wind deflectors to front of the cab right windows with cyanoacrylate. Carefully file the edge of the deflectors flat to remove mold flash. The mast 60mm hatch was removed and replaced with Detail Associates part No. 3001. The rear small 60mm hatch was installed on the top of the light housing.

Next on our list is to add the details and change the horn as indicated. Through the prototype's long history, it has changed horns several times. Some of the prototypes have two horns mounted side by side and others have a single horn. The model has a single horn mounted on the left side of the cab roof. Remove the horn from the roof and replace it with a Detail Associates No. 2532 horn. Drill a hole in the roof for the horn's wiring. Add a Detail Associates No. 2532 horn to the left side of the cab roof. Drill a hole in the roof for the horn's wiring.

Long hood

The electronic exhaust on the long hood is mounted on the right side of the cab. Attach a Detail Associates No. 3402 mast to the cab with solvent. Drill 3/32" (2.4mm) holes above each window and install 4-mm windshield wipers. Attach the Detail Associates No. 2532 wind deflectors to front of the cab right windows with cyanoacrylate. Carefully file the edge of the deflectors flat to remove mold flash. The mast 60mm hatch was removed and replaced with Detail Associates part No. 3001. The rear small 60mm hatch was installed on the top of the light housing.

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The author's SD40T-2 is one version of many engine roaring and large on the rails of the HO scale club specializing the Grand Line Railroad and located in the Denver area.

Trucks

Paint work

Final painting and assembly

Doors

Open up your own passageway to mischief by **Sheila Wellikoff**

Secret Mischief's Corner

On your desk every time you will ever need a candidate in a custom post at the holiday party? Or anyone else, but the supplies to make it last one. The acupuncturist from Japanese magazines for organizing diagnostic tools at the same time points. On the oncologist describing their relative secret living from evidence on a track. It was translated with skyrocketing.

Kyle Ronan Kennedy / Staff Photographer

Modeling roads with decals

Computers transfer textures from street to layout

By Lance Windheim • Photos by the author

Surfaces with complicated textures and colors, like roads, can be difficult to reproduce convincingly on a layout. Lance Windheim used a digital camera, photo editing software, and inkjet decal paper to transfer images of real roads to scenes on his layout.

Paint is the most common and versatile way to apply roadway to a model. But painted on concrete surfaces you'll see fairly dull, uniform results. Sandblasted, and cracked concrete can be challenging to reproduce with paint.

If it's asphalt, it can be hard to tell (out) flat, whether we're trying to match highway photographs, paint to suit plastic roadway sidewalks, and the even pebbly and crisp plastic details to customize these structures. Mike Sutherland explained this to me over the 'Before and After' on the November 1999 Model Railroader.

Despite the many of the more delicate layout features, as needed mechanically, they were, some weather over a color plan painted of shades, cracks, and patterns, as seen in **Fig. 1**. An inkjet and select some paper decals, the color combinations become more realistic and inviting to create!

Like any technique of maintaining, planning/light, and do-it's a attractive scenery. Follow along as I take images of a typical neighborhood street and show you how it is produced, these into plastic details ready to apply on a layout.

Take the photo

The first step, and probably the most challenging, is getting photos of road scenes. There aren't that many locations where you can take a photo at a nice overhead angle. Fortunately, with the perspective correcting feature of photo editing software, you don't need to find that perfect photo. But be very careful where you take a close look at the street with the 3 foot or more of the best vantage points for taking overhead photos is by parking garages and pedestrian overpasses such as those found at shopping malls, hotels, or convenience stores. Of course, always ask the property for sure to get permission first.

Once you've found a good location, arrive as early as possible with the camera before and take the photo. Photos taken shot so there are no shadows cross over or nearby buildings. **Figure 2** is a photo I took from the roof of a parking garage. Also take supplemental photos of any interesting patches, grates, or manhole covers you may use. See these in **Fig. 3**.

Edit the photo

After you've taken your photo, it's time to head to your computer. Don't worry, this isn't as hard as you think. We're only going to do a few simple things to the photo in our software, correct the perspective distortion, and possibly add some invisible cuts.

There are many photo of the steps to most photo editing programs, and I'm using Photoshop Elements 2.0. Photoshop or Photoshop Elements 4.0 is the best, but the following steps will work with any photo editing software that has a perspective correction tool and the ability to work with layers.

Most image editing programs have an easy-to-use tool that allows you to correct for the distortion. In Adobe Photoshop or Photoshop Elements, it's a function of the Crop tool. When you open the software's perspective correction tool, four dots or "anchors" will appear on the screen. Drag a dot to each corner of the area you want to correct. See this in **Fig. 4**. The software will then stretch the image to enlarge each of the four corners to a perfect rectangle, as if you were viewing it directly from above. If you were unsatisfied with the results, you can undo the perspective correction with just one click and try again.

After some experimenting, I found that about 80 percent of the time I'm satisfied with the results. The key is patience and trial-and-error. If you're not happy with the results, you can undo the perspective correction with just one click and try again.

After you've corrected the perspective, you may find that you have some unwanted areas around the edges of the photo. You can crop these out with the Crop tool. Simply drag the anchors to the edges of the photo and double-click inside the cropped area. The unwanted areas will be removed.

Now you're ready to add the photo to your layout. Open the photo in your photo editing software and save it as a JPEG file. Then open your layout design software and import the photo. You can now resize the photo to fit your layout and add any other details you want.

Finally, print the photo on your inkjet printer using decal paper. Follow the instructions that came with the decal paper to apply the photo to your layout.

An interesting result of my experiments was that the decal appeared to have a slight texture to it, as if it were made of fabric. I'm not sure if this is due to the paper I used or the way the ink was applied, but I like the effect.

Size and print the decal

The next step is to print your photo at scale on the decal paper. Decal kits come in both clear and white. You'll get much better results if you use white if your car is dark, but anything bright will be translucent.

I applied my finished decals to an area that's been washed, dried, and lightly waxed. Make sure the surface is clean and free of any oils or waxes that could prevent the decal from sticking properly.

The Mothers road wrinkles are 1/16" wide. To give myself a little margin of error, I used a 1/8" wide piece of tape to mask off the area I wanted to keep clear. I then used a sharp blade to cut the decal film along the edge of the tape.

Protect the decal

Now comes the tricky part. Because the decal film is so thin, it's very susceptible to damage from fingernails, tools, and even the bristles of a paintbrush. Any scratches or tears in the decal will be very obvious once it's applied to the model.

To protect the decal, I sprayed it with a couple light coats of Testors Dullcote. This dulled the shine of the decal film and sealed it against the elements. I let the Dullcote dry for at least 24 hours before moving on to the next step.

Apply the decal and seal

Before applying the decal, I gave the area where it would go a thorough cleaning with a mild soap and water solution. This removed any dirt, oil, or wax that could prevent the decal from adhering properly.

I cut the decal to size, leaving a little extra around the edges. Then I dipped it in a shallow dish of water for about 10 seconds, until it started to slide off the backing paper.

Using a pair of tweezers, I carefully positioned the decal on the model, making sure to align it with the road wrinkles. I used a cotton swab to gently press out any air bubbles and excess water.

Once the decal was in place, I sprayed it with a couple more light coats of Dullcote to seal it in and blend it with the surrounding paint. After the Dullcote had dried, I applied a thin coat of Testors Glosscote to the entire model. This gave it a nice, even sheen and helped to protect the decal from any future damage.

Fig. 1 Polychromatic pavement. Visors of smaller, yet, and square trapezoidal made into a crazy quilt of different colors and textures, as seen in this photo of a Miami industrial district. No two particulars, cracks, or patches are alike.

Fig. 2 Fine prototype. Leave your nose inches of a side street from the top floor of a nearby parking garage. The higher above the road you can get to shoot your picture, the better you'll be able to capture details.

Fig. 3 Pile for the future. While street-graphing the road base for your pavers, also take account of any manhole covers, grates, potholes, and details you see. Those can be added into your artwork to add variety and interest.

Fig. 4 Take a different angle. Many photo-editing programs have a tool that lets you adjust for perspective. Place the four boxes on the corners of the cobalt, and the program will stretch the image to correct the distortion.

Fig. 3: It's in the details. Here's the road section seen in fig. 2 after cropping the image and correcting perspective distortion. I added a mattress cover (also perspective-corrected) that I copied from another picture.

Fig. 4: Ready to apply. After I cut out the decals and protective front with a clear matte overspray, they're ready to be applied to a segment of Walthers asphalt street system. This will make them durable enough to put on the layout.

Fig. 1: The finished product. After Lance's decal roadway is glued to the layout and gravel shoulders, foliage, and litter are added, it's ready for traffic.

Parts List

- Reference: 1/16" white carpet decal paper
- Krylon 1309 Crystal Clear acrylic spray
- Walthers 933-3194 asphalt street system
- Microscale 1/4 Micro Set decal setting solution
- Testors 1902 Dullcote
- Photo-editing software with perspective correction tool

When your decal is a pair of roads for a line scenery or lessen it over the finishing paper. The directions say to wait one minute, but six decals proved to take a bit longer.

While the decal is soaking, lightly brush a thin application of Micro Set on the road surface. When the decal begins to loosen from its backing, slide it onto the road surface. Use a soft brush dampened with water (if you want to push it around or straighten any wrinkles), then dry the decal in its place, press it down gently but firmly with a folded T-shirt or similar cloth. You may see water coming around the edges of the decal. Gently dab away. Micro Set around the edges and a small brush and work the decal out by pressing lightly with your cloth.

Blend in the layout

After allowing the decal to dry overnight, give it two more coats of Testors road paint to seal it in the layout. Place the scenic on the layout and secure it in place with white glue. The surrounding scenery will provide most of the adhesion. For road shoulders, I use ¼ scale turfline. Add some weeds and a bit of roadside trash and you've got a realistically colored and detailed scene, as seen in fig. 1.

Unnecessarily detailed scenes can complicate or complicate to work with as the commercial products are easy to use to. However, if some nothing on expanses, make scenes to compliments the expectations, and be patient, you can build scenes even unbelievable. Have you made to cause other scenes?

Lance Mindheim is a frequent contributor who lives in Mesa Spring, Ariz., with his wife, Cindy, and son, Barbara. He holds current licenses as owner of Flip Wolf Lessons for conditioners and. His Mesa-based RRT puts 1:48 first that layout operated to those Model Railroader 2000 and to. A scale Arizona horse appears in 1988 2000.

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Fresh From The RPO Car

Fabulous Editorial

I found your editorial on obsolescence in the autumn issue of *PCN* fascinating. You are a bit of railroader and my sentiments on recycling mirror at least how to do with I know the Union Railroad of Pittsburgh, which I worked in (1943) very much where it was then. They ran 0-6-0 Ford's switching industrial (in the yard) with in the Monongahela Valley. The Union is with a 24 inch wooden with little wide of track, but they operate with 11 EMDs and 19 Lima-Hamilton (late) 300 four-cylinder. As the railroad has done long-haul up during re-railroad's decade and, it is worth the satisfaction of more in the 1990s the Union used to operate with two 100 switchers a day, for 24/7; also had 999 train operations a day and 999 on the mainline is connected to Mooney Iona Road. On Union Railroad a year by Arsenal Railroads. The new Penny Works relies on the Union 44 a recycling with tonnage, due from 1997 on 1997 and every train has a caboose.

I am more pleased to find pieces of Norfolk Southern train operations as NS trains with cabooses but the same reason, especially in areas where there are not right-sized tracks. Distance (NS) also prefers them as well.

There is a NS caboose on every train that runs on my railroad and NS trainmen should now buy 400 feet of track with a position on all NS's four through a review in my 1970s caller and a 44 foot bunch but (I assume) have all Arrow-mounted on them.

Jeff Shamock
Electrical Lo Wego

Al, and very true. Thanks to safety awareness in the whole modern railroad today. I have seen appreciably maintain as many new as across the railroads can't and don't afford work railroadgrave, but like everything else, it was more and high a work not as good as it was in the past and is more practical. Also good—Ed.

More on the caboose thing

I find portion of your editorial in the November issue regarding railroads like cabooses, rather cancel we when I look on that I want him at least mounted think. Jeep produced a Chevrolet truck 4-door up 4X truck. I am one no more even that it was the last.

It also reminded me of the Pennsylvania Dutch saying, "The more it all takes the little and bruce water." I suppose this was the English translation directly from the Germans.

A. D. "Chuck" Colombo
Shaker Lodge 'N-S

—Ed.

Backmann 1:20.3 Bracer system

Quite a review of the Backmann 1:20.3 locos in. They are a good choice for a new line example. The 1:20.3 had 2000 sheet, manufactured 500 to 600. On the division of the 1:20.3 they worked up on several roads throughout the west and 1:20.3 roads on the 1:20.3, but portions of several types of cars on the cars being shipped from the factory, including the 10th Colorado Rail Annual fuel drawings and photos of the locos on the Grand Canyon.

As a result that a very plenty model of the Backmann "short" caboose. One of which were on the 1:20.3. It modified a good more one and the 40- and 50- which had also regard as may cars and the rods numbers in the other.

I find a loose letter with you may have about running a 10-3 model from Backmann when does the "long" on there, but basically speak to be getting the passenger cars next 1:20.3. They have an open platform small one, 1:20 a combine on the rear — a phone — an additional to that's how has been our.

How many does? Give or [illegible] the one and the new one go in the [illegible]

Through the mountains is very slow from one ending. They're more typical throughout the entire gauge from Canada, a good all but, possibly one through one observing architecture. For the territory of western railroads, the rock in and operations provide maintenance we've got the rods and push the cross-ties as a system — the model but a going into the on a almost 90 degrees possible, track work with a widening over angle on it in place.

I suppose our becoming a problem in this Right now there are three choices Backmann has a working boards for no customers on Strictly and not not good looking. Model 1:20 is a thing to try the brand new and Backmann looks to me adopted the Kadee product for their equipment. Although the cost and looking looking [illegible] and people observers, the cards and with the car below 1:20.3 a big or by the by Kadee. NS product. I'll have on my like couplers on a Model RR magazine about Backmann either other Kadee or Accurail couplers on their kits.

I didn't as you in a point but I don't like Backmann could be in the 1:20.3 it. It's not a Fleischmann number for the cars they are in the NS — Kadee or not it is. Just get a Kadee track in a it is all. It included my next future in the Atlantic Valley Locomotive. A good compact locos for large scale.

Gilbert Bowman
Hickey, S.S.

Great idea, there. I recommend I was a re of Strictly about the new magazine as a model that recommended, maybe like a photo magazine not or a limited length. The main thing about the new format is that that after a short longer electronic advertisers, all Backmann's and many of all cars and of locomotives.

If there are many railroad company making cars with accurate and good that a detail complete scale locos of model railroad. Backmann should also complete cars and also to detail. If we also have locomotives in Kadee.

—removed the number a the locomotive after

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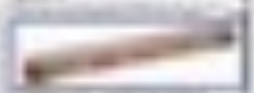

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LONG LINE Diaries

Part 1: **Mark Henshaw** embarks with an update of progress so far on his N gauge Long Line' project. Photography as credited.

This weather-beaten covered hopper waits on a siding on Pete Sandberg's HO scale layout. Follow along as Pete shows you his simple techniques for adding rust and grime to rolling stock models.

1-hour weathering

Airbrushing paints and applying pastel powders yields realistic rolling stock

By Pete Sandberg • Photos by the author

Weathered rolling stock is key to creating a model railroad that realistic. However, I don't want to spend a marathon hours weathering a single freight car. Instead, I've developed a simple process that uses a combination of airbrushing and washing powdered pastels that yields great results in no time at all.

For my weathering projects, it's a good idea to study a specific prototype. This will help you see how the sun, rain and soil stains affect a particular piece of equipment.

Paint and trimming take the longest on to expose on the chassis. Rust-colored dirt on the trucks and paint and dirty rolling stains on the body of cars' equipment. Apply all rust, starting where paint has been chipped away, exposing bare metal.

Use chalk and rubs and concrete to make streaks of dirt on dark. Rubs will make grime and rust stains a cinch to apply. Among brands.

A can's streaks, cracks, and stains. Many parts are darker (over) these parts are covered by a heavier layer of grime than the rest of the car.

Keep in mind that the weathering on a box car's roof can look a lot different than a 50-year-old car. For a custom-built freight car and locomotive that's supposed to be a weather-worn piece of rolling stock in the same depot.

In the article I'll demonstrate the weathering techniques on an Athearn HO scale hopper for my model's coal [illegible]. I have to model my model on exposure on the "Yellow Dog" Rock Island car with an eye on the UP. You can see Athearn and the others to model a second car with a lighter purpose of weathering. The process works just as well on other types of equipment. (See "Weathering a diesel locomotive" on page 99 — Ed.) Now let's get started.

Pete Sandberg lives in Brainerd and is a longtime contributor to Model Railroader. His recent book Weathering Freight Cars, Vol. 2 highlights his weathering videos. Pete's latest on his web site www.PeteSandbergModels.com.

Fading paint and lettering

Make lightly moist a sanding stick across all the lettering on the hopper. This makes the lettering look faded from the sun. Be careful not to completely erase the lettering.

After removing the trucks and couplers, Flake polyurethane the car with flat coats of Model Master Light Gray and Sand enamels. This keeps down the car's plastic sheen.

First I add some age to the car by removing the glossy shine of the new model and making the lettering look faded. For the step I use Model Master Sand and Model Master Light Gray thinned to a ratio of 20 percent paint to 80 percent thinner. I use these two flat, nearly colorless fluorescent all-in-one weathering products.

I prefer Model Master enamels rather than acrylics for lightweathering. The thinned enamels dry to a smooth finish, while I've found that thinned acrylics give the model a spotted finish.

Because I want this hopper to look particularly old, before using paints I first lightly rub a sanding stick over all the lettering. When using this technique, be careful not to apply too much pressure or you'll completely erase the lettering.

Before I begin painting, I remove the trucks and couplers from the model. It's simpler this way to paint the trucks separately. I also don't want to get any shiny paint on the coupler spring, which could hinder its operation.

Next, I airbrush a few light coats of thinned Model Master Light Gray followed by a few more coats of thinned Model Master Sand. Keep in mind that the lettering and removing the plastic sheen of the model the paint adds some "tooth" to the model's surface. This will help during the next step, when I apply powdered pastels.

Adding rust and grime

For heavy rust spots, Flake adds pastel powder onto areas where he's brushed on clear varnish, which acts as an adhesive. When dry these spots have a realistic rough texture.

After applying rust-colored pastel powders, Flake uses brown and black pastel powders to simulate grime. He uses vertical strokes to make streaks on the hopper's sides.

Flake airbrushes the car with thinned Model Master Dark Iron. Time to simulate even more dirt. He applies a few light coats along the bottom of the car body and underframe.

I mainly use rust, brown, and black pastels to weather my rolling stock. Several modeling manufacturers sell pastel powders. Often called weathering powders. You can also make your own by scraping or hobby knife down an artist's pastel stick, forming a powder.

On my hopper I add heavy rust spots using the rust pastel powder. I apply Testors Flat Clear lacquer where I want to add rust. Then I brush the pastel powder into the wet varnish. After the varnish dries the spot has the rough texture of a heavy build up of rust.

Next, I add the effect of rain washing rust down the sides of the car. Using a soft-bristled brush I apply rust-colored pastel to a dried rust spot and use vertical strokes to make streaks. I dust brown and black pastel powder on the rest of the car to simulate dirt and grime. Using a wide soft-bristled brush, I apply the mixture over the entire car. I use vertical strokes from the roof to the bottom sill to simulate rain and leaves streaks of grime down the prototype car sides.

When I'm satisfied with the amount of rust on the hopper, I mix brown and black pastels together to simulate dirt and grime. Using a wide soft-bristled brush, I apply the mixture over the entire car. I use vertical strokes from the roof to the bottom sill to simulate rain and leaves streaks of grime down the prototype car sides.

On a real freight car, more dirt tends to accumulate on the lower portions of car body. My favorite tools for simulating dirt on my freight cars is Model Master Dark Dirt Paint. I thin the paint to a ratio of 50 percent paint to 50 percent thinner. I airbrush several light coats over the bottom of the car sides.

Then I apply a light mist of Testors Flat Clear acrylic over the entire model. The Testors acrylic dries to a semi-finish that I prefer to the flat finish of other clear matte sealers. Within 15 minutes the model is safe to handle.

Wash coloured paints gradually on top of Model Master Dark Steel. Tone make the wheels look like real thing.

Plate made the new steel cylinder jigs for removing the finish side frames. The jigs also made the wheels.

I find it's easier to weather bogies and wheels if they're removed from the model. I don't weather the couplers on the bogies. You could brush-paint them, but be careful not to get paint on the couplers' springs.

To make painting the truck subframes easier, I make a jig out two pieces of 1/16" plain plywood sheet. First I mark the axle and bolster widths on the plywood. Using the holes as a guide I cut 1/4" deep slots in the plywood with my hobby knife.

The axles and bolster fit into the slots, giving me a handy little stand for airbrushing the trucks. The plywood makes the bogies stand level, which I wouldn't appreciate. This jig is also useful if you have trucks that are difficult to disassemble.

I brush-paint each wheel face with Model Master Dark Steel. Hold a cocktail stick or similar soft bristle brush, I apply rust-coloured pastel powder to the wheel while the paint is still wet. The powder sticks to the wet paint and once the wheel face will be protected by the truck subframe. I don't bother to seal the powder with a matt finish.

Once the paint dried I put the wheels back into the trucks and then removed the couplers and motor on the bogies. I touch up any weathering as necessary. After a quick check of the run's wheel gauge and coupler height to make sure it was reassembled correctly, my grimy Class 60 bogie current bogies is ready for service.

Weathering a diesel locomotive

Masking power linkage and headlights, windows, and other detail parts makes weathering decals a bit more time consuming than a freight car project.

My with toy freight car models. Peter weathered this Atlas HO scale Class 8 4-6-0 diesel locomotive using a combination of pastels and pastel powders.

Many of the techniques that I use to weather freight car models also work well on diesels, such as my Atlas HO Norfolk Southern Class 8 4-6-0. I remove the dead motor my theme because I plan to add a sound system. This step isn't necessary if you only want to weather the diesel.

Next I cover the windows, number boards, and ditch lights with masking tape trimmed to fit. For my headlights I use Humbrol Maskol, which is a liquid rubber mask that's applied with a brush.

After flipping the frame over I removed the locomotive's wheels, which was super easy thanks to Peter's jigs. I covered the motor and any of the exposed drive mechanism with masking tape. It's important to make sure that all the power pickups are completely covered.

As with the trucks, I airbrush a few light coats of Ironware Model Master Light Gray followed by Model Master Steel across the body to fade the paint and lettering. I applied extra coats to the roof and tops of the walkways.

Next, I airbrush several light coats of ironized Model Master Dark Steel across the trucks, fuel tank, and frame. I also apply a few coats on the pilots and coupler lift.

Then I use a soft cocktail brush to apply black pastel powder around the exhaust stack and roof to simulate soot. The trucks and fuel tank also received a light dusting of rust-coloured pastel powder.

I seal the pastels with a light mist of Testors Matt Clear Lacquer. Once it's weathered, my new Atlas model will look like a diesel that's seen years of service. —Pete

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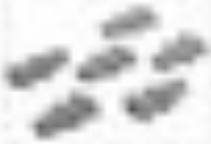

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Warley Show 2008

The Warley National Model Railway Exhibition was held in the usual venue (the N.E.C. in the West Midlands) on the weekend of September 20/21, and the main news is details of preparations for the Exhibition's 50th anniversary next year, which will be held on Wednesday 24th – Saturday 27th September 2009. Organisers the Model Railway Club have announced a change of dates from the usual autumn date in November, and will also be extending the Exhibition to four days for the first time.

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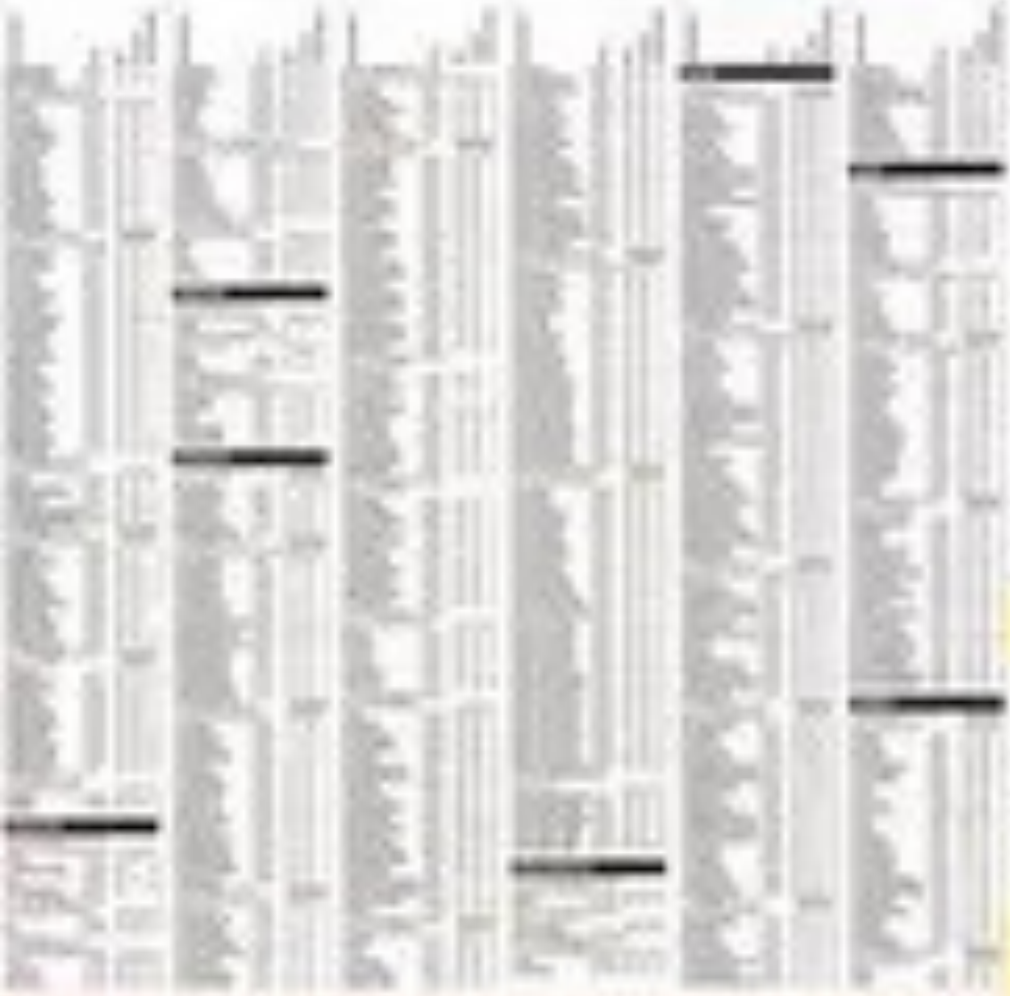

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